Please cancel claim 18 without prejudice.

Please amend claim 19 to read as follows:

19. (Amended) A passive optical network, comprising:

at least one multiplexing station that receives a first optical signal, applies a first-level code to the first optical signal, and transmits a coded first optical signal; and that receives a second optical signal, decodes a first-level code from the second optical signal, and transmits a resulting decoded optical signal; and

a second-level multiplexing station that receives an optical signal from the first-level multiplexing station and decodes the optical signal to decode a second-level code.

Please add the following new claim:

22. (New) The central station of claim 6, wherein the code applied by the encoder is a ~~composite code~~.

REMARKS

Reconsideration of the subject application is requested in view of the preceding amendments and the following remarks. Claims 1-21 are in the application. By this Amendment, claims 1-17 and 19 are amended, claim 18 is cancelled without prejudice, and new claim 22 is submitted for consideration. Upon entry of this Amendment, claims 1-17 and 19-22 are in the application.

The allowance of claims 1-4, 21 and the allowability of claims 19-20 is acknowledged. Claim 19 is amended to recite the features of its base claim so that claims 19-20 are in condition for allowance.

Claims 1-17 are amended to correct obvious typographical errors, or to recite optical codes, temporal codes, or temporal encoders. Support for such codes and encoders can be found in the specification at, for example, page 11, lines 26-30, page 12, lines 22-30, and page 13, lines 15-19. No new matter is introduced.

Claim 5 stands rejected as being allegedly anticipated by Sakanaka, U.S. Patent 5,850,189 ("Sakanaka"). This rejection is traversed. Claim 5 recites a central station for an optical network that includes an encoder that applies a code to a second optical data signal. The

Office Action alleges that the encoder (53) of Sakanaka's FIG. 3 applies a code to an optical signal. This allegation is false. The encoder (53) applies a code to an electrical signal that is then delivered to an output driver LED (54). Sakanaka does not teach, suggest, or provide any motivation for an encoder that applies a code to an optical signal Accordingly, claim 5 and dependent claims 6-7 are properly allowable over Sakanaka.

Claim 8 stands rejected as being allegedly anticipated by Chen, U.S. Patent 5,841,776 ("Chen"). This rejection is traversed. As amended, claim 8 recites a multiplexing station for an optical network that includes a temporal address decoder that receives a signal containing data coded according to a downstream address code and strips the downstream address code from the signal. Claim 8 also recites a temporal address coder that encodes a signal based on an upstream address code. Chen does not teach, suggest, or provide any motivation for temporal coders or temporal decoders for upstream or downstream codes. In contrast, Chen discloses frequency (i.e., spectral) codes. For example, Chen teaches frequency shift keying at col. 3, lines 32-34 and col. 4, lines 27-58 and is silent concerning temporal coders/decoders. Accordingly, claim 8 and dependent claims 9-15 are properly allowable over Chen.

Claims 6-7 stand rejected as being allegedly obvious from a combination of Sakanaka and Chen. Claim 6 recites a central station that includes an encoder configured to apply a temporal composite code. Neither Sakanaka nor Chen, taken alone or in any combination, teach or suggest any encoders configured to apply temporal codes of any kind. Sakanaka teaches frequency shift coding at, for example, col. 4, lines 14-19 and, as noted above, Chen discloses frequency (spectral) codes. Because temporal codes are neither taught nor suggested by Sakanaka or Chen, claim 6 and dependent claims 7 and 22 are properly allowable over Sakanaka and Chen taken in any combination.

Claims 11 and 12 stand rejected as being allegedly obvious from a combination of Chen and Chua et al., U.S. Patent 5,519,526 ("Chua"). This rejection is traversed. Claims 11 and 12 recite multiplexing stations that include a temporal address encoder and a temporal address decoder that strip or apply a temporal address code. As noted above, Chen does not teach, suggest, or provide any motivation for temporal codes of any kind. Chua discloses spectral codes based on phase delays and is silent concerning temporal codes. See Chua, col. 7, lines 11-15. Accordingly, claims 11-12 are properly allowable over Chen and Chua taken in any combination.

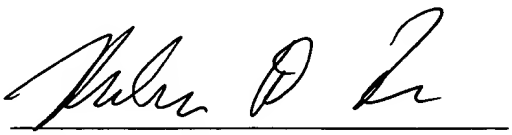
Claims 9, 10, and 13-15 stand rejected as being allegedly obvious from a combination of Chen and Huber, U.S. Patent 5,467,212 ("Huber"). This rejection is traversed. Claims 9, 10, and 13-15 recite multiplexing stations that include a temporal address encoder and a temporal address decoder. As noted above, Chen does not teach or suggest temporal codes or temporal coders or decoders. Huber fails to cure the deficiencies of Chen. Huber discloses a modulation system based on allocation of spectral bandwidth into, for example, 2 GHz of optical carrier bandwidth divided into 40 MHz radio frequency subcarrier bandwidths. Col. 27, lines 11-20. Huber is silent concerning temporal codes or encoders or decoders based on such codes. Therefore, claims 9, 10, and 13-15 are properly allowable over Chen and Huber taken in any combination.

Claims 16 stands rejected as being allegedly obvious from Huber and claim 17 stands rejected as being allegedly obvious from Huber and Chen. These rejections are traversed. Claims 16-17 recite methods of broadcasting an optical signal that include selecting a temporal code for an optical signal and applying the temporal code to the optical signal with at least one fiber Bragg grating. As noted above, neither Huber nor Chen, taken alone or in any combination, teach, suggest, or provide any motivation for selecting or applying a temporal code, or any methods or apparatus for applying such codes to optical signals. Accordingly, claims 16-17 are properly allowable over Huber and Chen.

In view of the forgoing, claims 1-17 and 19-22 are in condition for allowance and action to such end is requested.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By 

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Marked-up Version of Amended Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

6. (Amended) The central station of claim 5, wherein the code applied by the encoder is a temporal **[composite]** code.

7. (Amended) The central station of claim **[5]** 6, wherein the code is an address code that designates an intended destination for at least some of the data defined by the electrical data signal.

8. (Amended) A multiplexing station for an optical network, comprising:

[an] a temporal address decoder that receives a signal containing data and coded according to **[an]** a downstream address code and strips the downstream address code from the signal, wherein the downstream address code designates a destination for at least a portion of the data; and

[an] a temporal address encoder that receives a signal containing data and encodes the signal according to an upstream address code that identifies **[to identify]** a destination of at least some of the data.

9. (Amended) The multiplexing station of claim 8, wherein the temporal address decoder strips an optical code from the signal.

10. (Amended) The multiplexing station of claim 9, wherein the optical code is a composite code.

11. (Amended) The multiplexing station of claim 8, wherein the temporal address encoder applies an optical code.

12. (Amended) The multiplexing station of claim 11, wherein the optical code is a composite code.

13. (Amended) The multiplexing [apparatus] station of claim 8, wherein the temporal address encoder includes at least one fiber Bragg grating that applies the code.

14. (Amended) The multiplexing [apparatus] station of claim 8, wherein the temporal address decoder comprises at least one fiber Bragg grating that strips the code.

15. (Amended) The multiplexing [apparatus] station of claim 14, further comprising an optical circulator that directs the signal to at least one fiber Bragg grating.

16. (Amended) A method of broadcasting an optical signal to a plurality of user stations for data recovery only by a selected user, comprising:

selecting a temporal code for the optical signal; and

applying the temporal code to the optical signal with at least one fiber Bragg grating.

17. (Amended) The method of claim 16, wherein the temporal code is a composite code.

19. (Amended) **[The passive optical network of claim 18, further comprising]** A passive optical network, comprising:

at least one multiplexing station that receives a first optical signal, applies a first-level code to the first optical signal, and transmits a coded first optical signal; and that receives a second optical signal, decodes a first-level code from the second optical signal, and transmits a resulting decoded optical signal; and

a second-level multiplexing station that receives an optical signal from the first-level multiplexing station and decodes the optical signal to decode a second-level code.